

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1. (Currently amended) A method for providing object change information
2 from a first system to a second system for synchronizing the second system with
3 the first system, the second system having an object cache for storing objects, the
4 method comprising the steps of:
5 changing an object in the first system;
6 determining minimal object change information representing a change
7 made to the object in the first system; and
8 distributing the object change information directly from the first system to
9 the second system to cause the second system to merge the object change
10 information into the object cache so as to synchronize the second system with the
11 first system, wherein the second system is registered in the first system prior to
12 distributing the object change information from the first system to the second
13 system, wherein the registration process causes the first system to know that the
14 second system wants to receive object change information of objects changed in
15 the first system, thereby eliminating the need for the second system to register
16 with every object it is interested in.

1 2. (Original) The method as claimed in claim 1 further comprising a step
2 of establishing a communication link between the first system and the second
3 system wherein the distributing step distributes the object change information
4 from the first system to the second system through the communication link.

1 3. (Original) The method as claimed in claim 2 wherein the establishing
2 step establishes the communication link based on a publish/subscribe protocol.

1 4 (Canceled).

1 5. (Original) The method as claimed in claim 1 further comprising a step
2 of sending the object change information to a database for updating the object in
3 the database with the object change information.

1 6. (Original) The method as claimed in claim 5 further comprising the
2 steps of:
3 receiving an error message from the database when the updating of the
4 object in the database fails; and
5 discarding the object change information prior to the distributing step in
6 response to the error message.

1 7. (Original) The method as claimed in claim 1 wherein the first system
2 includes an object cache for storing one or more objects, and the method further
3 comprises a step of merging the object change information into the object cache of
4 the first system.

1 8. (Original) The method as claimed in claim 1 wherein the determining
2 step determines the object change information as a minimal set of information
3 representing the change made to the object.

1 9. (Original) The method as claimed in claim 1 wherein the determining
2 step determines the object change information to include a primary key identifying
3 the object.

1 10. (Original) The method as claimed in claim 1 wherein the object
2 includes an attribute for containing object data or a value of a relationship with
3 one, or more, other object, and the determining step determines the object change
4 information to include a change made in the attribute of the object.

1 11. (Original) The method as claimed in claim 1 wherein the first system
2 includes a cache for storing one or more objects, the method further comprising
3 the steps of:
4 receiving object change information distributed from the second
5 system and containing information of changes made to one or more objects in the
6 second system; and
7 merging the object change information received from the second
8 system into the objects in the cache of the first system to synchronize the first
9 system with the second system.

1 12. (Currently amended) A method for providing object change
2 information from a first system to a second system for synchronizing the second
3 system with the first system, the first system having a first object cache for storing

4 one or more objects and the second system having a second object cache for
5 storing one or more objects, the method comprising the steps of:
6 | determining minimal object change information representing a change
7 | made to an object in the first system; and
8 | distributing the object change information directly from the first system to
9 | the second system to cause the second system to merge the object change
10 information into the second object cache so as to synchronize the object in the
11 second cache of the second system with the changed object in the first system,
12 wherein the second system is registered in the first system prior to distributing the
13 object change information from the first system to the second system, wherein the
14 registration process causes the first system to know that the second system wants
15 to receive object change information of objects changed in the first system,
16 thereby eliminating the need for the second system to register with every object it
17 is interested in.

1 13. (Original) The method as claimed in claim 12 further comprising a
2 step of establishing a communication link between the first system and the second
3 system wherein the distributing step distributes the object change information
4 from the first system to the second system through the communication link.

1 14 (Canceled)

1 15. (Original) The method as claimed in claim 12 further comprising a
2 step of sending the object change information from the first system to a database
3 for updating the object in the database with the object change information.

1 16. (Original) The method as claimed in claim 15 further comprising the
2 steps of:
3 receiving an error message from the database when the updating of
4 the object in the database fails; and
5 discarding the object change information prior to the distributing
6 step in response to the error message.

1 17. (Original) The method as claimed in claim 12 further comprising a
2 step of merging the object change information into the first object cache of the
3 first system so as to synchronize the object in the first object cache with the
4 changed object in the first system.

1 18. (Original) The method as claimed in claim 12 wherein the determining
2 step determines the object change information as a minimal set of information
3 representing the change made to the object.

1 19. (Original) The method as claimed in claim 12 wherein the determining
2 step determines the object change information to include a primary key identifying
3 the object and any changed attribute of the object.

1 20. (Original) The method as claimed in claim 12 further comprising steps
2 of:
3 receiving object change information distributed from the second
4 system and containing information of changes made to one or more objects in the
5 second system; and

6 merging the object change information received from the second
7 system into the objects in the first cache of the first system to synchronize the first
8 system with the second system.

1 21. (Currently amended) A synchronization executor for providing object
2 change information from a first system to a second system for synchronizing the
3 second system with the first system, the first system being capable of changing the
4 object, the second system having an object cache for storing objects, the system
5 comprising;
6 | a synchronization manager for obtaining minimal object change
7 | information representing a change made to an object in the first system; and
8 | a dispatcher for distributing the object change information directly from
9 | the first system to the second system to cause the second system to merge the
10 object change information into the object cache so as to synchronize the object in
11 the second system with the first system, wherein the second system is registered in
12 the first system prior to distributing the object change information from the first
13 system to the second system, wherein the registration process causes the first
14 system to know that the second system wants to receive object change information
15 of objects changed in the first system, thereby eliminating the need for the second
16 system to register with every object it is interested in.

1 22. (Original) The executor as claimed in claim 21 wherein the
2 synchronization manager establishes a communication link with the second
3 system and the dispatcher distributes the object change information to the second
4 system through the established communication link.

1 23. (Previously presented) The executor as claimed in claim 22 wherein
2 the synchronization manager establishes the communication link based on a
3 publish/subscribe protocol.

1 24. (Original) The executor as claimed in claim 21 further comprising a
2 connector for obtaining the object change information that is distributed from the
3 second system.

1 25. (Previously presented) The executor as claimed in claim 21 wherein
2 the synchronization manager obtains the object change information from a
3 connector for updating the object in the first system.

1 26. (Original) The executor as claimed in claim 21 wherein the object
2 change information is a minimal set of changes to the object.

1 27. (Original) The executor as claimed in claim 21 wherein the object
2 change information includes a primary key to uniquely identify the object and a
3 change in an attribute of the object.

1 28. (Currently amended) A persistence system for synchronizing an object
2 on a network, the network including a caching system having an object cache for
3 storing objects, the persistence system comprising;

4 a transaction manager for changing an object and determining minimal
5 object change information representing the change made to the object for updating
6 a database; and

7 a synchronization executor for obtaining the object change information
8 from the transaction manager and distributing the object change information to the

9 caching system to cause the caching system to merge the object change
10 information into the object cache so as to synchronize the object in the object
11 cache with the changed object in the persistence system, wherein the second
12 system is registered in the first system prior to distributing the object change
13 information directly from the first system to the second system, wherein the
14 registration process causes the first system to know that the second system wants
15 to receive object change information of objects changed in the first system,
16 thereby eliminating the need for the second system to register with every object it
17 is interested in.

1 29. (Original) The system as claimed in claim 28 further comprising a
2 persistence system cache for storing one or more objects.

1 30. (Original) The system as claimed in claim 29 wherein the transaction
2 manager merges the object change information into the persistence system cache.

1 31. (Original) The system as claimed in claim 28 wherein the
2 synchronization executor establishes the network, and the dispatcher distributes
3 the object change information via the established network.

1 32. (Currently amended) Computer readable media storing instructions for
2 use in the execution in a computer of a method for providing object change
3 information from a first system to a second system for synchronizing the second
4 system with the first system, the second system having an object cache for storing
5 objects, the method comprising the steps of:
6 changing an object in the first system;

7 | determining minimal object change information representing change made
8 | to the object in the first system; and
9 | distributing the object change information directly from the first system to
10 | the second system to cause the second system to merge the object change
11 | information into the object cache so as to synchronize the second system with the
12 | first system, wherein the second system is registered in the first system prior to
13 | distributing the object change information from the first system to the second
14 | system, wherein the registration process causes the first system to know that the
15 | second system wants to receive object change information of objects changed in
16 | the first system, thereby eliminating the need for the second system to register
17 | with every object it is interested in.

1 | 33. (Currently amended) Electric signals for execution in a computer of a
2 | method for providing object change information from a first system to a second
3 | system for synchronizing the second system with the first system, the second
4 | system having an object cache for storing objects, the method comprising the
5 | steps of:
6 | changing an object in the first system;
7 | determining minimal object change information representing change made
8 | to the object in the first system; and
9 | distributing the object change information directly from the first system to
10 | the second system to cause the second system to merge the object change
11 | information into the object cache so as to synchronize the second system with the
12 | first system, wherein the second system is registered in the first system prior to
13 | distributing the object change information from the first system to the second
14 | system, wherein the registration process causes the first system to know that the
15 | second system wants to receive object change information of objects changed in

16 the first system, thereby eliminating the need for the second system to register
17 with every object it is interested in.

1 34. (Currently amended) A computer program product for execution in a
2 computer of a method for providing object change information from a first system
3 to a second system for synchronizing the second system with the first system, the
4 second system having an object cache for storing objects, the computer program
5 product comprising:

6 a module for changing an object in the first system;
7 a module for determining minimal object change information representing
8 a change made to the object in the first system; and
9 a module for distributing the object change information directly from the
10 first system to the second system to cause the second system to merge the object
11 change information into the object cache so as to synchronize the second system
12 with the first system, wherein the second system is registered in the first system
13 prior to distributing the object change information from the first system to the
14 second system, wherein the registration process causes the first system to know
15 that the second system wants to receive object change information of objects
16 changed in the first system, thereby eliminating the need for the second system to
17 register with every object it is interested in.